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Amendment and/or Response
Reply to Office action of 8 December 2005

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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method for adjusting ~~the centering a location~~ of a raster on a display in a rear projection television receiver, comprising:

displaying a first test pattern consisting of a raster center adjust pattern image;
receiving ~~an a~~ first output signal from each of at least two optical sensors located on opposing sides of a display screen while the raster adjust pattern image is displayed;

combining the first output signals to form ~~an a~~ first adjustment measure; and
adjusting the ~~centering location~~ of the raster based on the first adjustment measure.

2. (Currently amended) ~~The A~~ method for adjusting ~~the centering as claimed in claim 1, wherein adjusting the centering of the raster based on the adjustment measure comprises:~~ a position of a raster, comprising:

displaying a test pattern consisting of a raster position adjust pattern;
setting a ~~centering positioning~~ control to an extreme value;
~~measuring the output signals~~ an output signal from each of at least two optical sensors located on opposing sides of a display screen;

calculating the ~~adjustment measure~~ a positioning error by determining an absolute value of a difference between the output signals;

adjusting the ~~centering positioning~~ control away from the extreme value; and
repeating the measuring, calculating and adjusting until the ~~centering~~ positioning error is below a given value.

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3. (Currently amended) A method for adjusting a width size of a raster on a display in a rear projection television receiver, comprising:

displaying a test pattern consisting of a raster projection pattern image;

receiving an output signal from each of at least two optical sensors located on opposing sides of a display screen while the raster projection pattern image is displayed;

combining the output signals to form an adjustment measure; and

adjusting the width size of the raster based on the adjustment measure.

4. (Currently amended) ~~The A~~ method for adjusting a width ~~as claimed in claim 3,~~ wherein ~~adjusting the width of the raster based on the adjustment measure comprises:~~ size of a raster, comprising:

displaying a test pattern consisting of a raster projection pattern;

setting a width size control for the raster to a maximum value;

measuring the output signals an output signal from each of at least two optical sensors located on opposing sides of a display screen;

calculating the ~~adjustment measure~~ a size error by determining a sum of the output signals;

decreasing the width size control; and

repeating the measuring, calculating and decreasing until the ~~adjustment measure~~ size error is below a given value.

5-8 (Canceled)

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9. (Original) A method for adjusting a raster geometry in a rear projection television receiver, said method comprising the steps:

- mounting optical sensors on the inside of the rear projection television receiver outside of a display screen at both lateral sides and above and below the display screen;

- setting the height and width controls for the raster to respective maximum values;

- displaying a first test pattern consisting of a raster projection pattern;

- measuring and storing the maximum output from said optical sensors;

- displaying a second test pattern consisting of a center adjust pattern;

- adjusting the centering of the raster based on the outputs of the optical sensors located on the lateral sides of the display screen;

- displaying the first test pattern;

- adjusting the width of the raster based on the outputs of the optical sensors located on the lateral sides of the display screen;

- adjusting the height of the raster based on the outputs of the optical sensors located above and below the display screen;

- adjusting the linearity of the raster based on the outputs of the optical sensors located above and below the display screen; and

- re-adjusting the height of the raster based on the outputs of the optical sensors located above and below the display screen.

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10. (Original) The method for adjusting the raster geometry as claimed in claim 9, wherein said step of adjusting the centering comprises:

- setting a centering control at a one extreme value;
- measuring the output voltages generated by the lateral optical sensors;
- calculating the centering error by determining the absolute value of the difference between the output voltages;
- incrementally adjusting the centering control away from said one extreme value; and
- repeating said measuring, calculating and incrementally adjusting steps until the centering error is at a minimum value.

11. (Original) The method for adjusting the raster geometry as claimed in claim 10, wherein said step of adjusting the width comprises:

- setting a width control for the raster to a maximum value;
- measuring the output voltages generated by the lateral optical sensors;
- calculating the width error by determining the sum of the output voltages;
- incrementally decreasing the width control; and
- repeating said measuring, calculating and incrementally decreasing steps until the width error equals a minimum value.

12. (Original) The method for adjusting the raster geometry as claimed in claim 11, wherein said step of adjusting the height comprises:

- setting a height control for the raster to a maximum value;
- measuring the output voltages generated by the top and bottom optical sensors;
- calculating the height error by determining the sum of the output voltages;
- incrementally decreasing the height control; and
- repeating said measuring, calculating and incrementally decreasing steps until the height error equals a minimum value.

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13. (Original) The method for adjusting the raster geometry as claimed in claim 12, wherein said step of adjusting the linearity comprises:

- setting a linearity control to one extreme value;
- measuring the output voltages generated by the top and bottom optical sensors;
- calculating the linearity error by determining the absolute value of the difference of the output voltages;
- incrementally adjusting the linearity control away from said one extreme value;
- and
- repeating said measuring, calculating and incrementally adjusting steps until the linearity error equals a minimum value.

14. (Original) An arrangement for adjusting a raster geometry in a rear projection television receiver, said rear projection television receiver having an input for receiving television signals, a video processing circuit for processing said received television signals and for forming color video signals and deflection control signals, color video signal projectors for projecting light signals corresponding to said color video signals in dependence on said deflection signals, and a display screen on which said light signals are projected, wherein said video signal processing circuit includes control input means for receiving control signals for controlling a centering, height, width and linearity of a raster formed by at least one of said color video signal projectors, characterized in that said arrangement comprises:

- a pattern generator coupled to the video signal processing circuit for applying selected test patterns to said video signal processing circuit, said test patterns including a center adjust pattern and a raster projection pattern;

- a plurality of optical sensors mounted inside of the rear projection television receiver outside of the display screen at both lateral sides and above and below the display screen;

- a sensor output selector for selecting an output signal from one of said plurality of optical sensors;

- an analog-to-digital converter for digitally converting the selected optical

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sensor output signal;

a controller having an input coupled to receive the digitally converted sensor output signal, a first output coupled to said sensor output selector for selecting one of the sensor output signals, a second output coupled to the video signal processing circuit for causing the video signal processing circuit to process the test pattern from the pattern generator, a third output coupled to the pattern generator for selecting one of the test patterns, and fourth outputs coupled to the control input means of the video signal processing circuit for controlling the centering, height, width and linearity of the raster generated by said one color video signal projector, wherein said controller performs the following functions:

- sets the height and width controls for the raster to respective maximum values;
- displays a first test pattern consisting of a raster projection pattern;
- measures and stores the maximum output from said optical sensors;
- displays a second test pattern consisting of a center adjust pattern;
- adjusts the centering of the raster based on the outputs of the optical sensors located on the lateral sides of the display screen;
- displays the first test pattern;
- adjusts the width of the raster based on the outputs of the optical sensors located on the lateral sides of the display screen;
- adjusts the height of the raster based on the outputs of the optical sensors located above and below the display screen;
- adjusts the linearity of the raster based on the outputs of the optical sensors located above and below the display screen; and
- re-adjusts the height of the raster based on the outputs of the optical sensors located above and below the display screen.

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15. (Currently amended) A projection television comprising:

a display,

one or more projectors,

a deflection signal generator,

at least two optical sensors that are mounted adjacent to opposing sides of the display, and

a processor that is configured to:

display a test pattern image via at least one of the one or more projectors;

receive signals corresponding to the output of each of the at least two optical sensors while the test pattern image is displayed,

combine the signals to form an adjustment measure, and

provide the adjustment measure to the deflection signal generator;

wherein

the deflection signal generator is configured to modify a path of a projection from at least one of the one or more projectors to the display, based at least in part on the adjustment measure.

16. (Currently amended) The television of claim 15, wherein

the at least two optical sensors include sensors adjacent top, bottom, right, and left sides of the display, and

the adjustment measure facilitates a centering of a raster produced by the at least one of the one or more projectors.

17. (Previously presented) The television of claim 15, wherein

the at least two optical sensors include sensors adjacent top and bottom sides of the display, and

the adjustment measure facilitates an adjustment of a height of a raster produced by at least one of the one or more projectors.

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18. (Previously presented) The television of claim 15, wherein
the at least two optical sensors include sensors adjacent right and left sides of
the display, and
the adjustment measure facilitates an adjustment of a width of a raster
produced by at least one of the one or more projectors.

19. (Previously presented) The television of claim 15, wherein
the adjustment measure facilitates an adjustment of a linearity of a raster
produced by at least one of the one or more projectors.

20. (New) The method of claim 1, including
displaying a second test pattern consisting of a raster projection pattern
image;
receiving a second output signal from each of at least two optical sensors
located on opposing sides of the display screen while the raster projection pattern
image is displayed;
combining the second output signals to form a second adjustment measure;
and
adjusting a size of the raster based on the second adjustment measure.

21. (New) The method of claim 20, including
displaying a third test pattern consisting of the raster adjust pattern image;
receiving a third output signal from each of at least two optical sensors located
on opposing sides of the display screen while the raster adjust pattern image is
displayed;
combining the third output signals to form a third adjustment measure; and
re-adjusting the location of the raster based on the third adjustment measure.

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22. (New) The method of claim 1, including

displaying a fourth test pattern consisting of the raster projection pattern image;

receiving a fourth output signal from each of at least two optical sensors located on opposing sides of the display screen while the raster projection pattern image is displayed;

combining the fourth output signals to form a fourth adjustment measure; and re-adjusting the size of the raster based on the fourth adjustment measure.